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10/815,126

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Darshan B. Joshi

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EXAMINER

KAWSAR, ABDULLAH AL

ART UNIT

PAPER NUMBER

2195

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DELIVERY MODE

12/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/815,126

Applicant(s)

JOSHI ET AL.

Examiner

ABDULLAH AL KAWSAR

Art Unit

2195

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB006)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-25 and 27-30 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/21/2009 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-25 and 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. The following claim languages are not clearly understood and indefinite:
 - i. Claim 1, line 3 recites "an application" and line 8 recites "one or more applications" it is unclear if the application is included in one or more application executing in the same node or they are executing in separate node. Line 9 recites "compatible with other application" it is unclear what constitutes compatible between the applications (i.e. applications are similar type? require similar

resources? performs same functionality?). Line 14 recites "reconfigured to provide the quantity of resources" it is unclear what constitutes reconfiguring the resources (i.e. reallocate the resource allocation between the application? reconfigure the nodes in the cluster with the application allocated between them? shutdown or terminate some application?).

ii. Claims 11, 16 and 21 have similar deficiency as of claim 1 above.

iii. Claim 2, line 3 recites "a second quantity" it is unclear what constitutes a second quantity since the claim does not have any first quantity (i.e. an additional quantity?).

iv. Claims 5, 13, 15, 18, 20, 23 and 25 has similar deficiency as of claim 2 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5-8, 11-12, 15-17, 20-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Short et al.(US Patent No. 6178529), in view of Schroiff et al.(US Patent No. 699606), in view of Chao et al.(US Patent No. 6393485).

5. As per claim 1, Short teaches the invention substantially as claimed including a method comprising:

determining whether a resource in a first cluster can be allocated to provide a quantity of the resource to an application (col 10, lines 62-67 through col 11, lines 1-4), wherein the first cluster includes a plurality of nodes (figure 2, systems are nodes), and the determining whether the resource in the first cluster can be allocated comprises detecting whether one or more applications executing on one of the nodes are compatible with the application, and detecting whether the one of the nodes can provide the quantity of the resource (col 7, lines 38-43);

if the resource in the first cluster cannot be allocated to provide the quantity of the resource to the application, determining whether the first cluster can be reconfigured to provide the quantity of the resources to the application (col 8, lines 27-36);

if the first cluster can be reconfigured, enabling the first cluster to provide the quantity of the resource to the application by reconfiguring the first cluster (col 1, lines 31-34; col 7, lines 32-43); and

Short does not specifically disclose wherein the first cluster can be reconfigured comprises comparing a priority of at least one of the one or more applications to a priority of the application.

However Schroiff teaches wherein the first cluster can be reconfigured comprises comparing a priority of at least one of the one or more applications to a priority of the application (col 2, lines 55-67; col 9, lines 17-20).

6. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Schroiff into the method of Short to determine if the cluster can be reconfigured comprising the priority of the one or more applications to the priority of the application. The modification would have been obvious because one of the ordinary skill of the art would utilize the teaching to compare the priority to define the highest priority that can take over the application and perform more efficiently.

Short and Schiff do not specifically disclose if the first cluster cannot be reconfigured, restarting the application in a second cluster having a sufficient amount of the resource to provide the quantity of the resource to the application.

However, Chao teaches if the first cluster cannot be reconfigured, restarting the application in a second cluster having a sufficient amount of the resource to provide the quantity of the resource to the application (col 3, lines 23-27; col 5, lines 40-45; col 7, lines 34-43).

7. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Chao into the combined method of Short and Schiff and to restarting the application in a second cluster having a sufficient amount of the resource to provide the quantity of the resource to the application. The modification would have been obvious because one of the ordinary skills of the art would want to be able to utilize the available resource in a multi-cluster based system between different clusters, nodes and servers to prevent system failure.

8. As per claim 2, Short teaches selecting the application to be allocated the quantity of the resource from a plurality of applications in accordance with a business priority for the application (col 7, lines 22-31).

9. As per claim 5, Short teaches monitoring performance of a plurality of applications running in the first cluster (col 2, lines 1-5); and

if performance of one application of the plurality of applications fails to satisfy a criterion, requesting to allocate a second quantity of the resource for the one application to enable the performance of the one application to satisfy the criterion(col 1, lines 31-34).

10. As per claim 6, Short teaches the first cluster is remote from the second cluster (col 1, lines 62-65; col 2, lines 51-54).

11. As per claim 7, Short teaches the determining whether the resource in the first cluster can be allocated to provide the quantity of the resource to the application is performed in response to failure of the application (col 7, lines 32-35).

12. As per claim 8, Short teaches the determining whether the resource in the first cluster can be allocated to provide the quantity of the resource to the application is performed in response to starting the application (col 8, lines 3-6; lines 26-31).

13. As per claims 11, 16 and 21, they have similar limitations as claim 1 above. Therefore, they are rejected under the same rational as of claim 1 above.

14. As per claims 12, 17 and 22, they have similar limitations as claim 2 above. Therefore, they are rejected under the same rational as of claim 2 above.

15. As per claims 15, 20 and 25, they have similar limitations as claim 5 above. Therefore, they are rejected under the same rational as of claim 5 above.

16. Claims 3, 9, 10, 13, 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Short et al.(US Patent No. 6178529), in view of Schroiff et al.(US Patent No. 699606), in view of Chao et al.(US Patent No. 6393485), as applied to claims 1, 11, 16 and 21 above, and further in view of Trossman et al.(Trossman) US Patent No. 7308687.

17. As per claim 3, Short, Schroiff and Chao do not specifically disclose adding a second quantity of the resource to the first cluster.

However, Trossman teaches adding a second quantity of the resource to the first cluster (col 11, 53-57).

18. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Fong into the combined method of Chao, Schroiff and Short to adding a second quantity of the resource to the first cluster. The modification would

have been obvious because one of the ordinary skills of the art would want to be able to add or remove resources to the cluster according to the application necessity to be able to have a stable system execution.

19. As per claim 9, Trossman teaches the determining whether the resource in the first cluster can be allocated to provide the quantity of the resource to the application is performed in response to identifying a problem with performance of the application (col 8, lines 12-23).

20. As per claim 10, Trossman teaches the determining whether the resource in the first cluster can be allocated to provide the quantity of the resource to the application is performed in response to determining that the application is not in conformance with a policy (col 3, lines 35-45, lines 61-67).

21. As per claims 13, 18 and 23, they have similar limitations as claim 3 above. Therefore, they are rejected under the same rational as of claim 3 above.

22. Claims 4, 14, 19 and 24, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Short et al(US Patent No. 6178529), in view of Schroiff et al.(US Patent No. 699606), in view of Chao et al.(US Patent No. 6393485), as applied to claims 1, 11, 16 and 21 above, and further in view of Fong et al.(Fong) US Patent No. 6366945.

23. As per claim 4, Short, Schroiff and Chao do not specifically disclose partitioning the resource within the first cluster.

However, Fong teaches partitioning the resource within the first cluster (col 1, lines 6-12; lines 38-45).

24. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Fong into the combined method of Chao, Schroiff and Short to partitioning the resource within the first cluster. The modification would have been obvious because one of the ordinary skills of the art would want to be able to modify the available resources to illuminate the problematic resources and isolate them from rest of the application for repair and have the system running without interruption.

25. As per claim 27, Fong teaches wherein the first cluster comprises a plurality of nodes, wherein at least one node among the plurality of nodes id a multiprocessor node, and the reconfiguring comprises partitioning the multiprocessor node into multiple nodes (col 1, lines 6-12; lines 14-26; col 3, lines 11-19; col 5, lines 9-21).

26. As per claims 14, 19 and 24, they have similar limitations as claim 4 above. Therefore, they are rejected under the same rational as of claim 4 above.

27. As per claims 28-30, they have similar limitations as claim 27 above. Therefore, they are rejected under the same rational as of claim 27 above.

Response to Arguments

28. Applicant's arguments with respect to claim(s) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABDULLAH AL KAWSAR whose telephone number is (571)270-3169. The examiner can normally be reached on 7:30am to 5:00pm, EST.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng Ai T. An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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